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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/009,845
Filing Date: March 27, 2002
Appellant(s): COLMAN, LEWIS

S. Peter Ludwig
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 28, 2005 appealing from the Office action mailed September 21, 2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,300,859	YATSIV	4-1994
4,547,886	KAMINSKI	10-1985
GB 1,591,709	WEBLEY	1-1981

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatsiv et al. (US 5,300,859) in view of Kaminski et al. (US 4,547,886).

Regarding claims 1 and 10, Yatsiv discloses a method of constructing an electrically excited gas discharge lamp (see Figs. 1, 3 and 4), comprising the steps of:

constructing a lamp envelope;

cleaning said lamp envelope; and

filling said envelope with a gas mixture comprising at least one IR-active gas species (i.e. CO₂), said gas species being such that said lamp provides an output characteristic of spontaneous emission to a ground state when electrically excited (see at least Col. 2, lines 6-18). Yatsiv is silent regarding the limitation of including a catalytic material within said lamp.

However, in the same field of endeavor, Kaminski discloses a discharge lamp comprising a catalytic material deposited in finely divided form within the lamp envelope in order to reduce arcing between electrodes and loss in optical power, resulting from the decomposition of CO₂ into CO and oxygen (see Col. 1, lines 14-20; and Col. 2, lines 21-25, and 35-37). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the catalytic material of Kaminski in the gas discharge of Yatsiv, with the purpose of reducing arcing between electrodes and loss in optical power, resulting from the decomposition of CO₂ into CO and oxygen.

The Examiner notes that while Kaminski refers to a an IR-laser, instead of an IR-lamp which provides an output characteristic of spontaneous emission to a ground state, the problem of decomposition or dissociation of CO₂ to CO and oxygen is found on both IR-sources, and thus, one of ordinary skill in the art would entertain the idea of using the teachings of Kaminski in an IR-lamp. See at least GB Patent No. 1 591 709 to Webley as evidence of the problem of CO₂ dissociation in IR-discharge lamps.

Regarding claims 2 and 11, Yatsiv-Kaminski discloses the lamp comprising a catalytic material. The recitation "said catalyst is operative to increase spectral stability" has not been given patentable weight because is considered an intended used recitation. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed

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does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Regarding claims 3 and 12, Yatsiv-Kaminski discloses the catalytic material disposed within the lamp envelope, but is silent regarding said catalytic material being coated on an inside wall of the envelope. However, it has been held that rearranging of parts of an invention involves only routine skills in the art. Thus, it would have been obvious to one having ordinary skills in the art the time the invention was made to coat the catalytic material on an inside wall of the lamp envelope, since rearrangement of parts of an invention is considered within the skills of the art. Further, coating said catalytic material on an inside wall reduces the number of parts of the lamp, and thus, its manufacture costs, since an additional support or member for placing the catalyst is not required.

Referring to claims 4 and 13, Yatsiv-Kaminski discloses the catalytic material consisting of platinum (see '886, Col. 2, line 36).

Referring to claims 5 and 7, claims 5 and 7 are rejected over the reasons stated in the rejection of claim 1.

Referring to claim 6, Yatsiv-Kaminski discloses the claimed invention except for the limitation of "the lamp volume being less than approximately 6 mL". However, it has been held that a change in size is generally recognized as being within the level of ordinary skill in the art. Thus, it would have been obvious to one having ordinary skill in the art to provide a lamp having a volume of 6 mL, since such a modification would have involve a mere change in the size of a component.

Referring to claims 8, 14, 15 and 16, Yatsiv discloses the IR-active gas species being carbon dioxide (see at least Cols. 3 and 4, Examples 1-4).

Regarding claim 9, Yatsiv-Kaminski discloses the claimed invention except for the limitation of “the concentration of carbon dioxide being less than 5%”. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the concentration of carbon dioxide in less than 5%, since it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value.

Regarding claim 17, Yatsiv-Kaminski discloses the lamp comprising a catalytic material and a predetermined carbon dioxide concentration, but is silent regarding the recitation of “said carbon dioxide concentration results in increased absorption curve depth”. However, it is elementary that mere recitation of a newly discovered function or property, inherently possessed by the structure of the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. Thus, the functional limitation of said carbon dioxide concentration results in increased absorption curve depth is taught by Yatsiv-Kaminski under the principles of functional inherency.

(10) Response to Argument

A. Applicant argues that Kaminski fails to disclose the use of “a catalytic material deposited in finely divided form” (see Appeal Brief, Page 10, section A, lines 3-4).

As stated in the rejection of the claims, and further conceded by Applicant, Kaminski discloses the used of a catalytic material deposited in the form of pellets. It is the Examiner’s position that a pellet is, by definition, a small piece or mass of material. Accordingly, opposite to a continuous body or layer, a pellet is in a finely divided form.

The Examiner further notes that the claims and the specification do not provide a standard for ascertaining the requisite degree for how fine is the finely divided form. No limiting dimensions to the size of the catalytic material have been disclosed. Therefore, the catalytic material in the form of pellets, is necessarily in a finely divided form.

Applicant’s allegation that the use of a material in the form of solid particles teaches away from a material deposited in finely divided form is not persuasive. The Examiner notes that for the catalytic material to be in a finely divided form it has to be in a solid state. If the catalytic materials were to be in a gaseous or liquid state, a plurality of storage or container units will be required to separate the gas or liquid in a divided form. However, this will reduced, if not eliminate, the interaction between the infrared (IR)-active gas species and the catalytic material. Accordingly, the use of solid particles does not teach away from a material in a finely divided form. Moreover, the claims do not prohibit using a solid particle as the catalytic.

Also, while the arguments address that pellets are not a finely divided form, Applicant has failed to demonstrate what characteristics has a pellet, i.e. a small piece of matter, that prohibits it from being a finely divided form.

B. Applicant argues that the Examiner's reasons and motivation for combining Yatsiv with Kaminski are "nowhere stated, suggested or claimed in the present application" (see Appeal Brief, Page 11, Section B, second paragraph).

As stated on MPEP 2144 (underlining for emphasis),

"RATIONALE DIFFERENT FROM APPLICANT'S IS PERMISSIBLE"
The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. In re Linter, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972) (discussed below); In re Dillon, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), cert. denied, 500 U.S. 904 (1991) (discussed below). Although Ex parte Levengood, 28 USPQ2d 1300, 1302 (Bd. Pat. App. & Inter. 1993) states that obviousness cannot be established by combining references "without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done" (emphasis added), reading the quotation in context it is clear that while there must be motivation to make the claimed invention, there is no requirement that the prior art provide the same reason as the applicant to make the claimed invention.

Further, in *In re Linter* (see MPEP 2144),

The court sustained the rejection, stating "The fact that appellant uses sugar for a different purpose does not alter the conclusion that its use in a prior art composition would be [sic, would have been] prima facie obvious from the purpose disclosed in the references." 173 USPQ at 562.

Also, in *In re Dillon* (see MPEP 2144),

The court held "it is not necessary in order to establish a prima facie case of obviousness . . . that there be a suggestion or expectation from the prior art that the claimed [invention] will have the same or a similar utility as one newly discovered by applicant," and concluded that here a prima facie case was established because "[t]he art provided the motivation to make the claimed compositions in the expectation that they would have similar properties."

Therefore, it is well documented, and supported by the courts, that there is no requirement for presenting the same reasons as the applicant to make the claimed invention. Moreover, Kaminski addresses a problem found in the discharge lamp of Yatsiv due to the decomposition of CO₂ into CO and oxygen, and one of ordinary skill in the art would entertain the idea of using the catalytic material of Kaminski with the purpose of reducing arcing between electrodes and loss in optical power of the lamp. Accordingly, while the Examiner provided different reasons for combining, every claimed limitation in the instant application is disclosed by Yatsiv-Kaminski.

C. Applicant argues that the discharge mechanism (i.e. emitted radiation and process to emit radiation) operative in lasers and that of a discharge lamp is different, and due to these differences, appellant questions the Examiner's assertion that both devices are in the same field of endeavor (see Appeal Brief, Page 12, Section C, 3rd paragraph; and Page 13, last paragraph).

The Examiner concedes that the emission *mechanism* of a laser and the emission *mechanism* of a lamp are different. However, the question at hand is not related to the mechanism for emission, i.e. how the light is emitted, but to the agent(s) responsible for said emission.

Yatsiv discloses an IR-discharge lamp, wherein the IR-active gas species is CO₂. As evidenced by Webley, IR-CO₂ lamps suffer from decomposition or dissociation of CO₂ into CO and O₂.

Kaminski discloses an IR-laser, wherein the IR-active gas species is CO₂. Kaminski also discloses the dissociation of CO₂ into CO + O₂. In order to overcome this problem, Kaminski teaches to dispose a catalytic material to recombine CO and O₂ back into CO₂.

While Yatsiv discloses a lamp and Kaminski a laser, both systems are discharge devices which require CO₂, and both suffer from the same problem: dissociation of CO₂. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teachings of Kaminski to the discharge lamp of Yatsiv, in order to reduce or eliminate the problems caused by the decomposition of CO₂.

For the reasons given above, it is the Examiner's position that both discharge devices are within the same field of endeavor. But even if, for the sake of argument, the laser of Kaminski is non-analogous art to the lamp of Yatsiv, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. As clearly stated above, Kaminski addresses the same problem encountered in IR-lamps.

D. Applicant argues that if the extension of the use of catalyst in lasers to their use in discharge lamps, for any function whatsoever, were indeed obvious, it is not clear why catalysts were not used in the construction of the discharge lamps described over 20 years later in the Yatsiv patent (see Appeal Brief, Page 15, 2nd and 3rd paragraphs).

The Examiner notes that the Basic Requirements of a Prima Facie Case of Obviousness (see MPEP 2143) consist of:

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- i. A suggestion or motivation to modify the references;
- ii. A reasonable expectation of success is required; and
- iii. All Claim limitations must be taught or suggested.

As evidenced above, a clear reasoning or motivation has been given to modify the references (i). That is, to reduced or eliminate the problems caused by the dissociation of CO₂. Further, it has been documented the advantages of using a catalytic material, hence supporting an expectation of success (ii). The catalytic material reduces arcing between electrodes and loss in optical power of the lamp. Also, Yatsiv-Kaminski discloses each and every claimed limitation (iii), as indicated in the rejection.

The Examiner notes that to establish a Prima Facie case of obviousness, the time difference between the references used is irrelevant. The age of the references has no bearing in the determination of patentability or lack of patentability of the claimed invention.


(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

German Colón 
December 01, 2005



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